

Name: _____ Date: _____ Section: _____

Partner: _____

Where can we find bacteria?



Microbiology lab : Testing for bacteria

Objectives:

- to take bacterial swabs from various places in the school
- to inoculate a petri dish with a bacterial culture
- to determine what kind of environmental conditions influence bacterial growth

Pre Lab Questions:

1. Where do you think you will find the highest amount of bacteria?

2. What do you think the petri dish will look like in 3-4 days?

3. Hypothesis:

4. Location my group tested:

Materials: (per group of 4 students)

- 1 petri dish with agar (2 students use each half of the dish)
- 2 cotton Q-tips
- permanent marker
- 2 index cards with sample location
- an incubator or really warm place (such as the school's boiler room!)

Procedure:

1. Choose an index card to determine your sample location
2. You will share one petri dish
3. Turn the dish upside down and using your marker, draw a line down the middle of the dish so that you have two equal halves.
4. Place your initials, date and sample location along the bottom perimeter of the dish, **NOT** in the middle.
5. When you and your partner are ready, come up and get your sterile Q-tip. Be very careful not to touch the side that will collect your sample, your hands can contaminate the Q-tip and alter your results.
6. Go to your assigned area and come back quickly!
7. Carefully open your jar (like Pac Man) and **lightly** rub your Q-tip across the agar on your side of the dish. Be careful not to dig into the agar!
8. Tape the dish shut and draw what your dish looks like in **Figure 1**.
9. Place your petri dish upside down on the tray.
10. Place your petri dish on the back counter where your class is posted.
11. We will examine the dishes in a few days and you will draw your finding in **Figure 2**.

Data:

A. Figure 1 : Draw your petri dish as soon as you have placed your sample on the agar

B. Figure 2 Draw you Petri Dish after 3 - 4 days

C. Table 1: Number of Colonies on petri dish

Colony Growth: Day 1	Colony Growth: Day 2	Colony Growth: Day 3	Colony Growth: Day 4	Colony Growth: Day 5

Analysis:

1. On which day did the most cultures appear?
2. Compare your findings with those of one other group and decide from the data collected which location had the most bacteria growth.
3. Who would benefit from your research?
4. Which petri dish had the most growth of the class? The Least?
5. Why was the agar sterilized before this investigation?
6. What kind of environmental conditions seem to influence where bacteria are found?
7. How can you control the amount of bacteria that you will encounter?